

## WHAT IS CLAIMED IS:

1. A substrate processing apparatus, comprising:

5 a first processing chamber capable of being isolated from an external atmosphere, said first processing chamber including a liquid chemical processing part for performing liquid chemical process on substrates;

a second processing chamber capable of being isolated from an external atmosphere, said second processing chamber including a pure water processing part for performing pure water process on substrates, and a dry processing part for performing dry  
10 process on substrates;

a first opening provided to an upper portion of said first processing chamber, said first opening allowing substrates to pass therethrough;

a first shutter member for exposing and blocking said first opening;

a second opening provided to an upper portion of said second processing  
15 chamber, said second opening allowing substrates to pass therethrough;

a second shutter member for exposing and blocking said second opening;

a third opening provided between said first and second processing chambers, said third opening allowing substrates to pass therethrough;

a third shutter member for exposing and blocking said third opening;

20 a first transport mechanism for transporting substrates, said first transport mechanism being movable between a position above said first processing chamber and a position above said second processing chamber;

a second transport mechanism for carrying substrates between said first and second processing chambers through said third opening;

25 a third transport mechanism for carrying substrates between said position above

first processing chamber and said liquid chemical processing part through said first opening, said third transport mechanism also transferring substrates between said first and second transport mechanisms; and

5 a fourth transport mechanism for carrying substrates between said position above said second processing chamber and said pure water processing part through said second opening, said fourth transport mechanism also transferring substrates between said first and second transport mechanisms.

2. The substrate processing apparatus according to claim 1,  
10 wherein said first processing chamber comprises:  
a liquid chemical processing chamber including said liquid chemical processing part; and  
a transport chamber provided with said third opening, said transport chamber allowing transportation of substrates by said second transport mechanism, and  
15 wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other.

3. The substrate processing apparatus according to claim 2,  
wherein said liquid chemical processing part includes a plurality of liquid  
20 chemical baths.

4. The substrate processing apparatus according to claim 3,  
wherein said liquid chemical processing chamber is divided into a plurality of liquid chemical process units including respective ones of said plurality of liquid  
25 chemical baths, and

wherein atmospheres in said plurality of liquid chemical process units can be isolated from each other.

5. The substrate processing apparatus according to claim 4, further comprising:

5 an inert gas supply member for supplying an inert gas to said first and second processing chambers; and

an exhaust member through which air is exhausted from said first and second processing chambers.

10 6. A substrate processing apparatus, comprising:

a first processing chamber capable of being isolated from an external atmosphere, said first processing chamber including a liquid chemical processing part for performing liquid chemical process on substrates;

15 a second processing chamber capable of being isolated from an external atmosphere, said second processing chamber including a pure water processing part for performing pure water process on substrates, and a dry processing part for performing dry process on substrates;

a first opening provided to an upper portion of said first processing chamber, said first opening allowing substrates to pass therethrough;

20 a first shutter member for exposing and blocking said first opening;

a second opening provided to an upper portion of said second processing chamber, said second opening allowing substrates to pass therethrough;

a second shutter member for exposing and blocking said second opening;

25 a third opening provided between said first and second processing chambers, said third opening allowing substrates to pass therethrough;

a third shutter member for exposing and blocking said third opening;

a first transport mechanism for transporting substrates, said first transport mechanism being movable between a position above said first processing chamber and a position above said second processing chamber; and

5           a second transport mechanism for carrying substrates between said position above said first processing chamber, said liquid chemical processing part, said pure water processing part, and said position above said second processing chamber while passing through said first, second and third openings, said second transport mechanism also transferring substrates to and from said first transport mechanism.

10

7. The substrate processing apparatus according to claim 6,

wherein said first processing chamber comprises:

a liquid chemical processing chamber including said liquid chemical processing part; and

15

a transport chamber provided with said third opening, said transport chamber allowing transportation of substrates by said second transport mechanism, and

wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other.

20

8. The substrate processing apparatus according to claim 7,

wherein said liquid chemical processing part includes a plurality of liquid chemical baths.

9. The substrate processing apparatus according to claim 8,

25

wherein said liquid chemical processing chamber is divided into a plurality of

liquid chemical process units including respective ones of said plurality of liquid chemical baths, and

wherein atmospheres in said plurality of liquid chemical process units can be isolated from each other.

5

10. The substrate processing apparatus according to claim 9, further comprising:

an inert gas supply member for supplying an inert gas to said first and second processing chambers; and

10 an exhaust member through which air is exhausted from said first and second processing chambers.

11. A substrate processing apparatus, comprising:

15 a first processing chamber capable of being isolated from an external atmosphere, said first processing chamber including a liquid chemical processing part for performing liquid chemical process on substrates;

a second processing chamber capable of being isolated from an external atmosphere, said second processing chamber including a pure water processing part for performing pure water process on substrates, and a dry processing part for performing dry  
20 process on substrates;

a first opening provided to an upper portion of said first processing chamber, said first opening allowing substrates to pass therethrough;

a first shutter member for exposing and blocking said first opening;

a second opening provided to an upper portion of said second processing  
25 chamber, said second opening allowing substrates to pass therethrough;

a second shutter member for exposing and blocking said second opening;

a third opening provided between said first and second processing chambers,  
said third opening allowing substrates to pass therethrough;

a third shutter member for exposing and blocking said third opening;

5 a first transport mechanism for transporting substrates, said first transport mechanism being movable between said first processing chamber, a position above said first processing chamber, a position above said second processing chamber, and said second processing chamber while passing through said first and second openings; and

a second transport mechanism for carrying substrates between said liquid  
10 chemical processing part and said pure water processing part through said third opening, said second transport mechanism also transferring substrates to and from said first transport mechanism.

12. The substrate processing apparatus according to claim 11,

15 wherein said first processing chamber comprises:

a liquid chemical processing chamber including said liquid chemical processing part; and

a transport chamber provided with said third opening, said transport chamber allowing transportation of substrates by said second transport mechanism, and

20 wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other.

13. The substrate processing apparatus according to claim 12,

25 wherein said liquid chemical processing part includes a plurality of liquid chemical baths.

14. The substrate processing apparatus according to claim 13,  
wherein said liquid chemical processing chamber is divided into a plurality of  
liquid chemical process units including respective ones of said plurality of liquid  
5 chemical baths, and

wherein atmospheres in said plurality of liquid chemical process units can be  
isolated from each other.

15. The substrate processing apparatus according to claim 14, further  
10 comprising:

an inert gas supply member for supplying an inert gas to said first and second  
processing chambers; and

an exhaust member through which air is exhausted from said first and second  
processing chambers.

15

16. A substrate processing apparatus, comprising:

a first processing chamber capable of being isolated from an external  
atmosphere, said first processing chamber including a liquid chemical processing part for  
performing liquid chemical process on substrates;

20 a second processing chamber capable of being isolated from an external  
atmosphere, said second processing chamber including a pure water processing part for  
performing pure water process on substrates, and a dry processing part for performing dry  
process on substrates;

a first opening provided to an upper portion of said first processing chamber,  
25 said first opening allowing substrates to pass therethrough;

a first shutter member for exposing and blocking said first opening;

a second opening provided to an upper portion of said second processing chamber, said second opening allowing substrates to pass therethrough;

a second shutter member for exposing and blocking said second opening;

5 a third opening provided between said first and second processing chambers, said third opening allowing substrates to pass therethrough;

a third shutter member for exposing and blocking said third opening;

a first transport mechanism for transporting substrates, said first transport mechanism being movable between said liquid chemical processing part, a position above  
10 said first processing chamber, a position above said second processing chamber, and said pure water processing part while passing through said first and second openings; and

a second transport mechanism for carrying substrates between said liquid chemical processing part and said pure water processing part through said third opening, said second transport mechanism also transferring substrates to and from said first  
15 transport mechanism.

17. The substrate processing apparatus according to claim 16,

wherein said first processing chamber comprises:

a liquid chemical processing chamber including said liquid chemical processing  
20 part; and

a transport chamber provided with said third opening, said transport chamber allowing transportation of substrates by said second transport mechanism, and

wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other.



18. The substrate processing apparatus according to claim 17,  
wherein said liquid chemical processing part includes a plurality of liquid  
chemical baths.

5           19. The substrate processing apparatus according to claim 18,  
wherein said liquid chemical processing chamber is divided into a plurality of  
liquid chemical process units including respective ones of said plurality of liquid  
chemical baths, and

wherein atmospheres in said plurality of liquid chemical process units can be  
10 isolated from each other.

20. The substrate processing apparatus according to claim 19, further  
comprising:

an inert gas supply member for supplying an inert gas to said first and second  
15 processing chambers; and

an exhaust member through which air is exhausted from said first and second  
processing chambers.

21. A substrate processing apparatus, comprising:

20           a first processing chamber capable of being isolated from an external  
atmosphere, said first processing chamber including a liquid chemical processing part for  
performing liquid chemical process on substrates;

a second processing chamber capable of being isolated from an external  
atmosphere, said second processing chamber including a pure water processing part for  
25 performing pure water process on substrates, and a dry processing part for performing dry

process on substrates;

a first opening provided to an upper portion of said first processing chamber, said first opening allowing substrates to pass therethrough;

a first shutter member for exposing and blocking said first opening;

5 a second opening provided to an upper portion of said second processing chamber, said second opening allowing substrates to pass therethrough;

a second shutter member for exposing and blocking said second opening;

a third opening provided between said first and second processing chambers, said third opening allowing substrates to pass therethrough;

10 a third shutter member for exposing and blocking said third opening;

a first transport mechanism for transporting substrates, said first transport mechanism being movable between said first processing chamber, a position above said first processing chamber, a position above said second processing chamber, and said second processing chamber while passing through said first and second openings;

15 a second transport mechanism for carrying substrates between said first and second processing chambers through said third opening;

a third transport mechanism for carrying substrates in said first processing chamber between a position inside said liquid chemical processing part and a position outside said liquid chemical processing part, said third transport mechanism also  
20 transferring substrates between said first and second transport mechanisms; and

a fourth transport mechanism for carrying substrates in said second processing chamber between a position inside said pure water processing part and a position outside said pure water processing part, said fourth transport mechanism also transferring substrates between said first and second transport mechanisms.

22. The substrate processing apparatus according to claim 21,

wherein said first processing chamber comprises:

a liquid chemical processing chamber including said liquid chemical processing part; and

5 a transport chamber provided with said third opening, said transport chamber allowing transportation of substrates by said second transport mechanism, and

wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other.

10 23. The substrate processing apparatus according to claim 22,

wherein said liquid chemical processing part includes a plurality of liquid chemical baths.

24. The substrate processing apparatus according to claim 23,

15 wherein said liquid chemical processing chamber is divided into a plurality of liquid chemical process units including respective ones of said plurality of liquid chemical baths, and

wherein atmospheres in said plurality of liquid chemical process units can be isolated from each other.

20

25. The substrate processing apparatus according to claim 24, further comprising:

an inert gas supply member for supplying an inert gas to said first and second processing chambers; and

25 an exhaust member through which air is exhausted from said first and second

processing chambers.

26. A substrate processing apparatus, comprising:

5 a first processing chamber capable of being isolated from an external atmosphere, said first processing chamber including a liquid chemical processing part for performing liquid chemical process on substrates;

a second processing chamber capable of being isolated from an external atmosphere, said second processing chamber including a pure water processing part for performing pure water process on substrates, and a dry processing part for performing dry  
10 process on substrates;

a first opening provided to an upper portion of said first processing chamber, said first opening allowing substrates to pass therethrough;

a first shutter member for exposing and blocking said first opening;

a second opening provided to an upper portion of said second processing  
15 chamber, said second opening allowing substrates to pass therethrough;

a second shutter member for exposing and blocking said second opening;

a third opening provided between said first and second processing chambers, said third opening allowing substrates to pass therethrough;

a third shutter member for exposing and blocking said third opening;

20 a first transport mechanism for transporting substrates, said first transport mechanism being movable between said liquid chemical processing part, a position above said first processing chamber, a position above said second processing chamber, and said pure water processing part while passing through said first and second openings;

a second transport mechanism for carrying substrates between said first and  
25 second processing chambers through said third opening;

a third transport mechanism for carrying substrates in said first processing chamber between a position inside said liquid chemical processing part and a position outside said liquid chemical processing part, said third transport mechanism also transferring substrates between said first and second transport mechanisms; and

5 a fourth transport mechanism for carrying substrates in said second processing chamber between a position inside said pure water processing part and a position outside said pure water processing part, said fourth transport mechanism also transferring substrates between said first and second transport mechanisms.

10 27. The substrate processing apparatus according to claim 26,  
wherein said first processing chamber comprises:  
a liquid chemical processing chamber including said liquid chemical processing part; and  
a transport chamber provided with said third opening, said transport chamber  
15 allowing transportation of substrates by said second transport mechanism, and  
wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other.

28. The substrate processing apparatus according to claim 27,  
20 wherein said liquid chemical processing part includes a plurality of liquid chemical baths.

29. The substrate processing apparatus according to claim 28,  
wherein said liquid chemical processing chamber is divided into a plurality of  
25 liquid chemical process units including respective ones of said plurality of liquid

chemical baths, and

wherein atmospheres in said plurality of liquid chemical process units can be isolated from each other.

5           30. The substrate processing apparatus according to claim 29, further comprising:

an inert gas supply member for supplying an inert gas to said first and second processing chambers; and

10           an exhaust member through which air is exhausted from said first and second processing chambers.